

Applicant: Korolainen et al.
Application No.: 10/599,179
Response to Office action mailed June 8, 2010
Response filed September 3, 2010

In the specification:

Please amend the specification as follows:

[0006] In a suction roll, a perforated shell rotates fitted with bearings on thrust shafts. Inside the shell may be a single- or multi-chamber suction box, the apertures of which open - limited by sealing strips - onto the inner surface of the shell for directing the suction at a specific sector of the suction roll. At the ends of the roll are aggregates connectors by means of which external negative pressure can be connected to the suction box. While the negative pressure is connected, a vacuum is formed under the paper web through the wire or the felt. The pressure difference formed removes water from the web to the perforations in the shell or holds the web during transfer. The negative pressure in the chambers is determined in accordance with the intended use of the suction roll. A problem with suction rolls is the deflection of the suction box towards the inner surface of the roll shell while negative pressure is connected to the suction box. In this case, external pressure will deflect the suction box in the direction of its suction inlets, whereby the seals of the suction box are pressed more tightly against the inner surface in the central area of the roll shell, thus wearing the seals more in their center than on the edge zone.

[0037] FIG. 13 shows a view in principle of a prior art suction roll without an internal suction box. The suction roll comprises a roll shell 111 which is fitted with bearings to rotate on shaft journals 113A and 113B which are connected to the roll shell 111 through end flanges 112A and 112B. The roll shell 111 has a perforation comprised of numerous apertures 115 extending through the roll shell 111. FIG. 13 shows only a part of the perforation of the

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shell 111. At least one of the shaft journals 113B comprises aggregates connectors leading to the interior of the roll, to which an external negative pressure source (not shown) can be connected. By means of the negative pressure source, air is sucked out (arrow P_2) through the sector formed by the suction box, whereby a corresponding amount of air (arrow P_1) will flow inside the roll through the perforation of the roll shell.